

REMARKS

Claims 1 and 3-9 were pending in the Application prior to the outstanding Office Action. In the Office Action, the Examiner rejected claims 1, 3 and 5-9 under 35 U.S.C. §103(a), and objected to claim 4.

I. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §103(a)

On page 2 and 3 of the Office Action mailed June 16, 2005, the Examiner rejected claims 1, 3 and 5-9 under 35 U.S.C. §103(a) as being unpatentable over two different combinations of the following references:

- U.S. Patent No. 5,613,821 issued to Muka et al. (“*Muka*”);
- U.S. Patent No. 6,138,721 issued to Bonora et al. (“*Bonora*”); and
- U.S. Patent No. 6,050,891 issued to Nering (“*Nering*”).

Muka discloses a cluster tool that provides a mini-environment 58 between each load lock 22 and a container 32 to isolate the load lock 22 and the interior 40 of the container from the surrounding atmosphere. The mini-environment 58 includes an outer surface 70 with an aperture 72 cut into the outer surface 70. Each load lock 22 has a load lock door 80 that moves “between a closed position overlying the load lock port 78 and an open position spaced therefrom.” *Muka*, col. 6, lines 26-29. To move the end effector 84 into the container 32, “the load lock door 80 and the carrier door 42 must be opened and moved to a remote location as seen in Fig. 8.” *Muka*, col. 6, lines 61-65. Fig. 8 illustrates that this “remote location” is simply towards the bottom of the mini-environment.

Bonora discloses a load port 13. The load port 13 secures to a BOLT interface plate 12, which comprises a rectangular frame. The BOLTS plate 12, with the load port attached, is then secured to the front end of a tool. The load port 13 shown in Figs. 1-2 includes, among other things, a mounting plate 10, a FOUP advance plate assembly and a port opening 15 (which is covered by a port door 17 in Fig. 2). The port door 17 moves between a closed position (shown in Fig. 2) and an open position whereby the port door 17 does not block the opening 15. The port door 17 is simply lowered into the tool to achieve the open position.

Nering discloses mounting conventional load ports 122 to a mini-environment 120. Each load port 122 includes a load port door 123. The load port door 123 is lowered into the mini-

environment 120. A robot 128 that travels within the mini-environment 120 extends through the port opening and pod door to access substrates within a container.

Muka in view of Bonora

In the Office Action, the Examiner rejected claims 1, 5, 6, and 9 under 35 U.S.C. § 103(a) as being Unpatentable over *Muka in view of Bonora*.

A. Independent Claim 1 Patently Distinguishes over *Muka in view of Bonora*

On page 3 of the Office Action, the Examiner stated that claim 4 would be allowable if rewritten in independent form because the closest prior art, *Muka*, “does not teach or suggest the lower part of the device as being a single piece of material that is formed to fasten to both the front and rear of the vertical struts.” Applicants have rewritten claim 1 to incorporate the limitation set forth in claim 4 - the “structure” comprises a single piece of material. Therefore, Applicants suggest that claim 1 is not obvious over *Muka in view of Bonora*.

B. Dependent Claim 5 Patently Distinguishes over *Muka in view of Bonora*

Dependent claim 5 depends directly or indirectly from independent claim 1. This dependent claim includes all of the limitations of the independent claim from which it depends. Applicants respectfully assert that dependent claim 5 is allowable for at least the reasons set forth above concerning independent claim 1.

C. Independent Claim 6 Patently Distinguishes over *Muka in view of Bonora*

Claim 6, among other things, recites:

“at least two elongated struts, each said elongated strut having an upper portion, a lower portion, a front face, and a rear face;
an upper support member secured to said upper portion of each said elongated strut;
a structure secured to said lower portion of each said vertical strut, said structure having a front mounting surface secured to said front face of each said vertical strut and a rear surface secured to said rear face of each said vertical strut, said structure providing a storage area for storing the port door when the port door is located in a lowermost position;”

Muka does not teach or suggest that the mini-environment 58 includes a “frame.” In contrast, *Muka* discloses bolting a housing, mini-environment 58, to a load lock 22 for isolating

the load lock 22 from the surrounding atmosphere. Fig. 12 of *Muka* illustrates that the port opening 78 is cut out of the mini-environment 58 housing. The mini-environment 58 disclosed in *Muka* does not have any “struts” or an “upper support member.” In addition, the mini-environment 28 does not include a “structure providing a storage area for storing the port door.” Fig. 8 of *Muka* illustrates that the load lock door 80 is simply lowered into the mini-environment 58. Particles generated by both the arm drive mechanism 134 and the clutches 132 will contaminate the load lock door 80 and the container door 42. Therefore, the “frame” recited in claim 6 is not obvious over *Muka*.

Bonora does not teach or suggest the elements missing in *Muka*. Neither the load port 13 nor the BOLTS plate 12 disclosed in *Bonora* include a “structure providing a storage area for storing the port door.” In contrast, *Bonora* teaches that the port door 17 is lowered until the port door 17 does not block the port opening 15. *Bonora* does not teach or suggest that either the load 13 or the BOLTS plate 12 include a storage area for the port door 17. Therefore, Applicants suggest that the “frame” recited in claim 6 is not obvious over *Muka* in view of *Bonora*.

D. Dependent Claim 9 Patently Distinguishes over *Muka* in view of *Bonora*

Dependent claim 9 depends directly or indirectly from independent claim 6. This dependent claim includes all of the limitations of the independent claim from which it depends. Applicants respectfully assert that dependent claim 9 is allowable for at least the reasons set forth above concerning independent claim 6.

Muka in view of *Bonora* and further in view of *Nering*

In the Office Action, the Examiner rejected claims 3, 7, and 8 under 35 U.S.C. § 103(a) as being Unpatentable over *Muka* in view of *Bonora* and further in view of *Nering*

A. Dependent Claim 3 Patently Distinguishes over *Muka* in view of *Bonora* and further in view of *Nering*

Dependent claim 3 depends directly or indirectly from independent claim 1. For at least the same reasons discussed above regarding claim 1, Applicants suggest that the “frame” recited in claim 3 is not obvious over *Muka* in view of *Bonora*, and further in view of *Nering*.

B. Dependent Claims 7 and 8 Patently Distinguish over *Muka* in view of *Bonora* and further in view of *Nering*

Dependent claims 7 and 8 depend directly or indirectly from independent claim 6. Claim 6, among other things, recites:

“at least two elongated struts, each said elongated strut having an upper portion, a lower portion, a front face, and a rear face;
an upper support member secured to said upper portion of each said elongated strut;
a structure secured to said lower portion of each said vertical strut, said structure having a front mounting surface secured to said front face of each said vertical strut and a rear surface secured to said rear face of each said vertical strut, said structure providing a storage area for storing the port door when the port door is located in a lowermost position;”

For at least the same reasons as discussed above regarding claim 6, the “frame” recited in claims 7-8 are not obvious over *Muka* in view of *Bonora*.

Moreover, *Nering* does not teach or suggest the elements missing in *Muka* and *Bonora*. For example, *Nering* does not teach or suggest that either the load port 122 or the mini-environment 120 includes a “structure providing a storage area for storing the port door when the port door is located in a lowermost position;” In contrast, the load port 122 disclosed in *Nering* simply lowers the port door into the mini-environment 120. Particles generated by the robot 128 will contaminate both the port door and pod door. Therefore, Applicants suggest that the frame recited in claims 7-8 are not obvious over *Muka*, in view of *Bonora* and further in view of *Nering*.

Additional Remarks


The references cited by the Examiner but not relied upon have been reviewed, but are not believed to render the claims unpatentable, either singly or in combination.

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application are allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned before an advisory action is issued in order to avoid any unnecessary filing of an appeal.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-3548 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: July 28, 2005

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